* NOTICES *

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CLAIMS

[Claim(s)]
[Claim 1] The air conditioner characterized by performing change-over control of this operation mode according to the change-over criteria of the operation mode using the cooling load or space heating load which is the multilocular form air conditioner in which air conditioning parallel running is possible, and applied air conditioning, the operation capacity of a heating interior unit, indoor intake air temperature, and laying temperature as change-over criteria of each operation mode of air conditioning operation, heating operation, and air conditioning parallel running.
[Claim 2] The air conditioner characterized by having a hysteresis as change-over criteria of each operation mode of air conditioning operation, heating operation, and air conditioning parallel running, and performing change-over control of this operation mode in an air conditioner according to claim 1.
[Claim 3] The air conditioner characterized by performing change-over control of this operation mode in an air conditioner according to claim 1 according to the change-over criteria of the operation mode using a cooling load, a space heating load, and an OAT.
[Claim 4] The air conditioner characterized by performing operation mode change-over control as one of operation modes always fixed according to the change-over criteria of this operation mode in the air conditioner according to claim 2 at the time of a start up when it was the operation mode within said hysteresis.
[Claim 5] The air conditioner characterized by performing operation mode change-over control as one of operation modes by the comparison with the specific temperature and the OAT which are beforehand determined according to the change-over criteria of this operation mode in an air conditioner according to claim 2 at the time of a start up when it is the operation mode within said hysteresis.
[Claim 6] The air conditioner characterized by determining the priority of the operation mode within said hysteresis at the time of a start up in an air conditioner according to claim 2 from the operation mode the previous day memorized in the storage element, and performing operation mode change-over control.
[Claim 7] It is the air conditioner characterized by the time amount of the specification after a change-over of this operation mode by the change-over criteria of each operation mode of air conditioning operation, heating operation, and air conditioning parallel running not switching this operation mode in an air conditioner according to claim 1.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] This invention relates to a suitable setup of the operation mode in the refrigerating cycle of the air conditioner in which air conditioning parallel running is possible, especially the change-over conditions of operation mode change-over control.
[0002]
[Description of the Prior Art] Conventionally, the size of the operation capacity of an air conditioning operation machine and a heating operation machine had determined the change-over criteria of operation mode. Moreover, the change-over of the operation mode at the time of air conditioning parallel running was controlling change-over criteria not as a border area but as a boundary line. Furthermore, the operation mode at the time of a start up was determined by only the operation capacity at the time of a start up.
[0003] In addition, there are some which were indicated by JP,2-82066,A as this seed well-known technique.
[0004]
[Problem(s) to be Solved by the Invention] With said conventional technique, as change-over criteria of operation mode, since the capacity of air conditioning and the machine in a heating driver's cabin was adopted, it was controlled by the operation mode only according to the relation of the size of the air conditioning capacity under operation, and heating capacity instead of operation mode by the heat capacity by the side of an interior unit, and there was a problem that capacity over a very required thermal load could not be demonstrated.
[0005] Moreover, with said conventional technique, in order to switch operation mode by making a boundary line into change-over criteria, there was a problem that a minute change of operation capacity became a cause and operation mode changed to boundary condition frequently when there are few near and differences.
[0006] Furthermore, with said conventional technique, since operation mode was determined by the above-mentioned interior unit capacity also at the time of a start up, the interior unit which carries out a start up one by one was air-conditioning-operated by turns, when heating operation was carried out, an operation mode change-over may be performed each time, and there was a problem that a change-over of operation mode occurred frequently.
[0007] The purpose of this invention is to set up the change-over criteria of more exact operation mode. Moreover, another purpose of this invention is to make it change-over actuation of the operation mode by minute change of operational status not occur frequently.
[0008] Still more nearly another purpose of this invention does not determine the operation mode at the time of a start up by the order of a start up of an interior unit, but is to make it the operation mode change-over at the time of a start up not occur frequently.
[0009]
[Means for Solving the Problem] In order to attain the above-mentioned purpose, this invention gives a hysteresis to the change-over criteria of operation mode, and performs change-over control of operation mode.
[0010] Moreover, as change-over criteria of operation mode, the intake air temperature of an interior unit besides the operation capacity of an air conditioning interior unit and a heating interior unit and laying temperature are applied, it considers as a cooling load and a space heating load,

and change-over control of operation mode is performed.
[0011] Furthermore, an OAT besides a cooling load and a space heating load also performs change-over control of operation mode as change-over criteria of the above-mentioned operation mode.
[0012] Moreover, in the decision in the heat exchanger mode at the time of a start up Determine at one operation mode within a hysteresis that a change-over of operation mode will not occur frequently. Or it is decided by the comparison with the temperature and the OAT which are determined beforehand that it will be one operation mode within a hysteresis. Or after determining the priority of operation mode from data on the previous day, and performing change-over control of operation mode or switching operation mode further, specific time amount performs change-over control, when operation mode is not switched but the need for the operation mode change-over after time amount progress arises.
[0013]
[Function] The intake air temperature by the side of an interior unit and laying temperature can be applied to the change-over criteria of operation mode, it can ask for the cooling load and space heating load which were approximated to the thermal load by the side of the very required interior of a room, and change-over control to operation mode required for reality can be performed by comparing this with operation mode change-over criteria.
[0014] Moreover, since it requires change of the operational status exceeding the hysteresis set up by having a hysteresis in the change-over criteria of operation mode in satisfying change-over criteria and switching operation mode to the operation mode, the ****** back, it does not switch easily and a change-over of operation mode does not occur frequently.
[0015] In addition to the cooling load by the side of the interior of a room, and a space heating load, the thermal load by the side of outdoor can also take an OAT into consideration by adding the change-over criteria of operation mode, operation mode can be switched, and suitable operation mode can be chosen.
[0016] Frequent occurrence of the operation mode change-over by change of the number of driver's cabins immediately after a start up can be prevented by always fixing the operation mode within the hysteresis at the time of a start up to fixed operation mode.
[0017] Furthermore, frequent occurrence of the operation mode change-over by change of the number of driver's cabins immediately after a start up can be prevented by fixing the operation mode within the hysteresis at the time of a start up to one operation mode by the comparison with the temperature and the OAT which are determined beforehand.
[0018] Moreover, since the possibility of an operation mode change-over can be reduced by memorizing operation mode the previous day, being in a hysteresis about the high operation mode of possibility of being operated immediately after a start up, and making a priority high, frequent occurrence of an operation mode change-over can be prevented.
[0019] Since operation mode change-over control is not performed further again until an operation mode change-over carries out back specification time amount progress and specific time amount passes at least between an operation mode change-over and an operation mode change-over, frequent occurrence of an operation mode change-over can be prevented.
[0020]
[Example] Hereafter, the example of this invention is explained according to drawing 1 -10.
[0021] Drawing 1 is the control-block Fig. of an air conditioner. The control section 1 centers on the microcomputer and the protective device 3 for the actuation switch 2 for train operation dispatching, a setup, and house keeping and protection control, the interior unit intake air temperature sensor 4, and the outdoor air-temperature sensor 5 are connected as an input device. Moreover, a compressor 6, ventilation equipment 7, the flow control valve 8 outside the interior of a room, and the closing motion-interior of a room outside valve 9 are connected as an output unit. Furthermore, a storage element 10 is connected and the following control is performed.
[0022] Drawing 2 shows one example of this invention. Drawing shows the operating duty of an air conditioner, and the relation of operation mode about operation mode change-over conditions. the inside of drawing, and a cooling load -- LR and a space heating load -- LH -- it comes out and expresses. As for each operation mode change-over, operation mode change-over control is performed by the difference of a cooling load and a space heating load. The change-over criteria of operation mode have established the hysteresis by heating subject mode to heating mode to the

heating subject MODOHE ********** case, and the heating MODOHE ********** case, and can control it by change of the cooling load of extent which does not exceed a hysteresis after a heating subject MODOHE change-over from heating mode by this, and a space heating load to the appearance from which operation mode does not change. The hysteresis is prepared in each operation mode change-over condition, and can be controlled similarly [in any case].

[0023] Other one example of this invention is shown in drawing 3 . Drawing shows the example of a mode change-over in heating subject mode and air conditioning subject mode, and shows the cooling load in drawing, and the space heating load by LR and LH like the case of drawing 2 , respectively. In this case, a cooling load and a space heating load can perform the estimate of the thermal load needed by the interior-of-a-room side by asking with the relational expression of air conditioning, heating operation capacity, indoor intake air temperature, and laying temperature, respectively. Drawing 3 shows the conditions which switch operation mode to heating subject mode from air conditioning subject mode serving as LR-LH<L2, namely, carrying out the operation control of bordering field L2 <=LR-LH<L3 in air conditioning subject mode, when controlling in the present air conditioning subject mode. Similarly, when controlling in current heating subject mode, the conditions which switch operation mode to air conditioning subject mode from heating subject mode serving as LR-LH>=L3, namely, carrying out the operation control of bordering field L2 <=LR-LH<L3 in heating subject mode is shown. One example of flows of control shown in drawing 4 at drawing 3 is shown.

[0024] Drawing 5 shows one another example of this invention. Drawing shows the example of a mode change-over in heating subject mode and air conditioning subject mode, and shows the cooling load in drawing, and the space heating load by LR and LH like the case of drawing 2 and drawing 3 , respectively. In this case, like drawing 3 , it can ask for a cooling load and a space heating load with the relational expression of air conditioning, heating operation capacity, indoor intake air temperature, and laying temperature, respectively, and they can approximate further the estimate of the thermal load needed by the interior-of-a-room side by setting up in the form which also included OAT conditions in operation mode change-over criteria. Drawing 5 shows the conditions which switch operation mode to heating subject mode from air conditioning subject mode being set to LR-LH<K3 and T0+K4, namely, carrying out the operation control of field K3 and T0+K4 <=LR-LH<K3 and T0+K4 of a boundary in air conditioning subject mode, when controlling in the present air conditioning subject mode. Similarly, when controlling in current heating subject mode, the conditions which switch operation mode to air conditioning subject mode from heating subject mode being set to LR-LH>=K1 and T0+K2, namely, carrying out the operation control of border area K3 and T0+K4 <=LR-LH<K1 and T0+K2 in heating subject mode is shown. Although drawing 5 shows the straight line which faces across the border area which shows a hysteresis as two straight lines from which an inclination differs, even if the inclination is parallel, it is satisfactory in any way. One example of flows of control shown in drawing 6 at drawing 5 is shown.

[0025] Drawing 7 and the example of another this invention to 8 and 9 are shown. In any case, the example which sets up the air conditioning parallel running mode at the time of a start up according to operation mode change-over criteria is shown.

[0026] In drawing 7 , an operation control is carried out in the heating subject mode set up beforehand in the border area at the time of a start up. Although a setup of the operation mode in a border area is in heating subject mode in drawing 7 , if air conditioning subject mode is set up, the operation control of it will be carried out in air conditioning subject mode from the track record of the time of the design of a facility, or the example of operation etc.

[0027] In the border area at the time of a start up, by the comparison with the specific temperature (T1) set up beforehand and the OAT at the time of a start up, when an OAT is low, it is in heating subject mode, and at drawing 8 , when an OAT is high, an operation control is carried out in air conditioning subject mode.

[0028] In drawing 9 , in the border area at the time of a start up, the operation mode addition time amount within after [a start up] fixed time amount is memorized from the data of operation mode the previous day to the storage element 10 shown in drawing 1 , and the priority of the operation mode at the time of the start up in a border area is determined from this result. In the case of drawing 9 , the priority of operation mode is determined from data the previous day, but the capacity of a storage element 10 may determine a priority from the data for a part for 1 week, and 1 month.

[0029] By drawing 10 , specific time amount is made into operation mode change-over prohibition

time amount after an operation mode change-over by operation mode change-over control, and the flows of control it is made not to switch operation mode even if the need for an operation mode change-over is in during this period are shown.

[0030]

[Effect of the Invention] Since this invention is constituted as explained above, effectiveness which is indicated below is done so.

[0031] Operation by the operation mode which applies interior unit intake air temperature and laying temperature to the change-over criteria of operation mode, and balances an indoor thermal load can be performed. Moreover, since it has a hysteresis in the change-over criteria of operation mode, a change-over of operation mode does not occur frequently by slight change of a cooling load and a space heating load, therefore the fall of the amenity accompanying a change-over is also pressed down. Furthermore, since operation by the operation mode which applies an OAT to the change-over criteria of operation mode, and also balances an outdoor thermal load can be performed, the amenity can be improved. Since a change-over of the operation mode within the hysteresis at the time of a start up determines the mode which was suitable for operation beforehand, a change-over of operation mode does not occur frequently. Therefore, the fall of the amenity accompanying a change-over is also suppressed.

[Translation done.]

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TECHNICAL FIELD

[Industrial Application] This invention relates to a suitable setup of the operation mode in the refrigerating cycle of the air conditioner in which air conditioning parallel running is possible, especially the change-over conditions of operation mode change-over control.

[Translation done.]

PRIOR ART

[Description of the Prior Art] Conventionally, the size of the operation capacity of an air conditioning operation machine and a heating operation machine had determined the change-over criteria of operation mode. Moreover, the change-over of the operation mode at the time of air conditioning parallel running was controlling change-over criteria not as a border area but as a boundary line. Furthermore, the operation mode at the time of a start up was determined by only the operation capacity at the time of a start up.
[0003] In addition, there are some which were indicated by JP,2-82066,A as this seed well-known technique.

[Translation done.]

EFFECT OF THE INVENTION

[Effect of the Invention] Since this invention is constituted as explained above, effectiveness which is indicated below is done so.
[0031] Operation by the operation mode which applies interior unit intake air temperature and laying temperature to the change-over criteria of operation mode, and balances an indoor thermal load can be performed. Moreover, since it has a hysteresis in the change-over criteria of operation mode, a change-over of operation mode does not occur frequently by slight change of a cooling load and a space heating load, therefore the fall of the amenity accompanying a change-over is also pressed down. Furthermore, since operation by the operation mode which applies an OAT to the change-over criteria of operation mode, and also balances an outdoor thermal load can be performed, the amenity can be improved. Since a change-over of the operation mode within the hysteresis at the time of a start up determines the mode which was suitable for operation beforehand, a change-over of operation mode does not occur frequently. Therefore, the fall of the amenity accompanying a change-over is also suppressed.

[Translation done.]

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] With said conventional technique, as change-over criteria of operation mode, since the capacity of air conditioning and the machine in a heating driver's cabin was adopted, it was controlled by the operation mode only according to the relation of the size of the air conditioning capacity under operation, and heating capacity instead of operation mode by the heat capacity by the side of an interior unit, and there was a problem that capacity over a very required thermal load could not be demonstrated.

[0005] Moreover, with said conventional technique, in order to switch operation mode by making a boundary line into change-over criteria, there was a problem that a minute change of operation capacity became a cause and operation mode changed to boundary condition frequently when there are few near and differences.

[0006] Furthermore, with said conventional technique, since operation mode was determined by the above-mentioned interior unit capacity also at the time of a start up, the interior unit which carries out a start up one by one was air-conditioning-operated by turns, when heating operation was carried out, an operation mode change-over may be performed each time, and there was a problem that a change-over of operation mode occurred frequently.

[0007] The purpose of this invention is to set up the change-over criteria of more exact operation mode. Moreover, another purpose of this invention is to make it change-over actuation of the operation mode by minute change of operational status not occur frequently.

[0008] Still more nearly another purpose of this invention does not determine the operation mode at the time of a start up by the order of a start up of an interior unit, but is to make it the operation mode change-over at the time of a start up not occur frequently.

[Translation done.]

MEANS

[Means for Solving the Problem] In order to attain the above-mentioned purpose, this invention gives a hysteresis to the change-over criteria of operation mode, and performs change-over control of operation mode.
[0010] Moreover, as change-over criteria of operation mode, the intake air temperature of an interior unit besides the operation capacity of an air conditioning interior unit and a heating interior unit and laying temperature are applied, it considers as a cooling load and a space heating load, and change-over control of operation mode is performed.
[0011] Furthermore, an OAT besides a cooling load and a space heating load also performs change-over control of operation mode as change-over criteria of the above-mentioned operation mode.
[0012] Moreover, in the decision in the heat exchanger mode at the time of a start up Determine at one operation mode within a hysteresis that a change-over of operation mode will not occur frequently. Or it is decided by the comparison with the temperature and the OAT which are determined beforehand that it will be one operation mode within a hysteresis. Or after determining the priority of operation mode from data on the previous day, and performing change-over control of operation mode or switching operation mode further, specific time amount performs change-over control, when operation mode is not switched but the need for the operation mode change-over after time amount progress arises.

[Translation done.]

OPERATION

[Function] The intake air temperature by the side of an interior unit and laying temperature can be applied to the change-over criteria of operation mode, it can ask for the cooling load and space heating load which were approximated to the thermal load by the side of the very required interior of a room, and change-over control to operation mode required for reality can be performed by comparing this with operation mode change-over criteria.
[0014] Moreover, since it requires change of the operational status exceeding the hysteresis set up by having a hysteresis in the change-over criteria of operation mode in satisfying change-over criteria and switching operation mode to the operation mode, the ****** back, it does not switch easily and a change-over of operation mode does not occur frequently.
[0015] In addition to the cooling load by the side of the interior of a room, and a space heating load, the thermal load by the side of outdoor can also take an OAT into consideration by adding the change-over criteria of operation mode, operation mode can be switched, and suitable operation mode can be chosen.
[0016] Frequent occurrence of the operation mode change-over by change of the number of driver's cabins immediately after a start up can be prevented by always fixing the operation mode within the hysteresis at the time of a start up to fixed operation mode.
[0017] Furthermore, frequent occurrence of the operation mode change-over by change of the number of driver's cabins immediately after a start up can be prevented by fixing the operation mode within the hysteresis at the time of a start up to one operation mode by the comparison with the temperature and the OAT which are determined beforehand.
[0018] Moreover, since the possibility of an operation mode change-over can be reduced by memorizing operation mode the previous day, being in a hysteresis about the high operation mode of possibility of being operated immediately after a start up, and making a priority high, frequent occurrence of an operation mode change-over can be prevented.
[0019] Since operation mode change-over control is not performed further again until an operation mode change-over carries out back specification time amount progress and specific time amount passes at least between an operation mode change-over and an operation mode change-over, frequent occurrence of an operation mode change-over can be prevented.

[Translation done.]

EXAMPLE

[Example] Hereafter, the example of this invention is explained according to drawing 1 -10.
[0021] Drawing 1 is the control-block Fig. of an air conditioner. The control section 1 centers on the microcomputer and the protective device 3 for the actuation switch 2 for train operation dispatching, a setup, and house keeping and protection control, the interior unit intake air temperature sensor 4, and the outdoor air-temperature sensor 5 are connected as an input device. Moreover, a compressor 6, ventilation equipment 7, the flow control valve 8 outside the interior of a room, and the closing motion-interior of a room outside valve 9 are connected as an output unit. Furthermore, a storage element 10 is connected and the following control is performed.
[0022] Drawing 2 shows one example of this invention. Drawing shows the operating duty of an air conditioner, and the relation of operation mode about operation mode change-over conditions. the inside of drawing, and a cooling load -- LR and a space heating load -- LH -- it comes out and expresses. As for each operation mode change-over, operation mode change-over control is performed by the difference of a cooling load and a space heating load. The change-over criteria of operation mode have established the hysteresis by heating subject mode to heating mode to the heating subject MODOHE ********** case, and the heating MODOHE ********** case, and can control it by change of the cooling load of extent which does not exceed a hysteresis after a heating subject MODOHE change-over from heating mode by this, and a space heating load to the appearance from which operation mode does not change. The hysteresis is prepared in each operation mode change-over condition, and can be controlled similarly [in any case].
[0023] Other one example of this invention is shown in drawing 3 . Drawing shows the example of a mode change-over in heating subject mode and air conditioning subject mode, and shows the cooling load in drawing, and the space heating load by LR and LH like the case of drawing 2 , respectively. In this case, a cooling load and a space heating load can perform the estimate of the thermal load needed by the interior-of-a-room side by asking with the relational expression of air conditioning, heating operation capacity, indoor intake air temperature, and laying temperature, respectively. Drawing 3 shows the conditions which switch operation mode to heating subject mode from air conditioning subject mode serving as LR-LH<L2, namely, carrying out the operation control of bordering field L2 <=LR-LH<L3 in air conditioning subject mode, when controlling in the present air conditioning subject mode. Similarly, when controlling in current heating subject mode, the conditions which switch operation mode to air conditioning subject mode from heating subject mode serving as LR-LH>=L3, namely, carrying out the operation control of bordering field L2 <=LR-LH<L3 in heating subject mode is shown. One example of flows of control shown in drawing 4 at drawing 3 is shown.
[0024] Drawing 5 shows one another example of this invention. Drawing shows the example of a mode change-over in heating subject mode and air conditioning subject mode, and shows the cooling load in drawing, and the space heating load by LR and LH like the case of drawing 2 and drawing 3 , respectively. In this case, like drawing 3 , it can ask for a cooling load and a space heating load with the relational expression of air conditioning, heating operation capacity, indoor intake air temperature, and laying temperature, respectively, and they can approximate further the estimate of the thermal load needed by the interior-of-a-room side by setting up in the form which also included OAT conditions in operation mode change-over criteria. Drawing 5 shows the conditions which switch operation mode to heating subject mode from air conditioning subject mode being set to LR-LH<K3 and T0+K4, namely, carrying out the operation control of field K3 and

T0+K4 <=LR-LH<K3 and T0+K4 of a boundary in air conditioning subject mode, when controlling in the present air conditioning subject mode. Similarly, when controlling in current heating subject mode, the conditions which switch operation mode to air conditioning subject mode from heating subject mode being set to LR-LH>=K1 and T0+K2, namely, carrying out the operation control of border area K3 and T0+K4 <=LR-LH<K1 and T0+K2 in heating subject mode is shown. Although drawing 5 shows the straight line which faces across the border area which shows a hysteresis as two straight lines from which an inclination differs, even if the inclination is parallel, it is satisfactory in any way. One example of flows of control shown in drawing 6 at drawing 5 is shown.

[0025] Drawing 7 and the example of another this invention to 8 and 9 are shown. In any case, the example which sets up the air conditioning parallel running mode at the time of a start up according to operation mode change-over criteria is shown.

[0026] In drawing 7 , an operation control is carried out in the heating subject mode set up beforehand in the border area at the time of a start up. Although a setup of the operation mode in a border area is in heating subject mode in drawing 7 , if air conditioning subject mode is set up, the operation control of it will be carried out in air conditioning subject mode from the track record of the time of the design of a facility, or the example of operation etc.

[0027] In the border area at the time of a start up, by the comparison with the specific temperature (T1) set up beforehand and the OAT at the time of a start up, when an OAT is low, it is in heating subject mode, and at drawing 8 , when an OAT is high, an operation control is carried out in air conditioning subject mode.

[0028] In drawing 9 , in the border area at the time of a start up, the operation mode addition time amount within after [a start up] fixed time amount is memorized from the data of operation mode the previous day to the storage element 10 shown in drawing 1 , and the priority of the operation mode at the time of the start up in a border area is determined from this result. In the case of drawing 9 , the priority of operation mode is determined from data the previous day, but the capacity of a storage element 10 may determine a priority from the data for a part for 1 week, and 1 month.

[0029] By drawing 10 , specific time amount is made into operation mode change-over prohibition time amount after an operation mode change-over by operation mode change-over control, and the flows of control it is made not to switch operation mode even if the need for an operation mode change-over is in during this period are shown.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the control-block Fig. of an air conditioner.
[Drawing 2] It is the diagram showing the operation mode change-over conditions of an air conditioner.
[Drawing 3] It is the diagram showing one example of an air conditioning subject, a heating subject field, and a border area.
[Drawing 4] It is drawing showing the flows of control of drawing 3 .
[Drawing 5] It is the diagram showing other one example of an air conditioning subject, a heating subject field, and a border area.
[Drawing 6] It is drawing showing the flows of control of drawing 5 .
[Drawing 7] It is drawing showing one example at the time of a start up.
[Drawing 8] It is drawing showing other one example at the time of a start up.
[Drawing 9] It is drawing showing one another example at the time of a start up.
[Drawing 10] It is drawing showing one example of the change-over prohibition control in an operation mode change-over.
[Description of Notations]
1 [-- An interior unit intake air temperature sensor 5 / -- An outdoor air-temperature sensor, 6 / -- A compressor, 7 / -- Ventilation equipment, 8 / -- The flow control valve outside the interior of a room, 9 / -- A closing motion-interior of a room outside valve, 10 / -- Storage element.] -- A control section, 2 -- An actuation switch, 3 -- A protective device, 4

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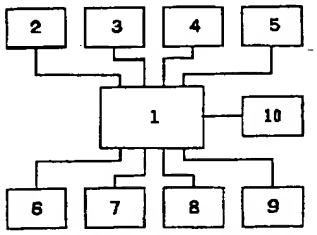
DRAWINGS

[Drawing 1]

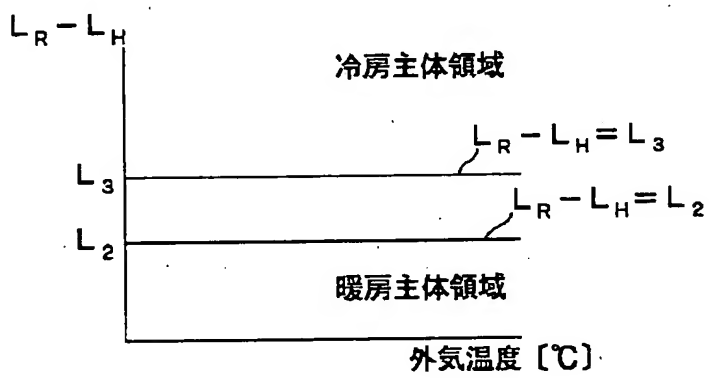
空気調和機の制御ブロック図（図 1）



1…制御部、2…操作スイッチ、3…保護装置、4…室内機吸込空気温度センサー、5…室外空気温度センサー、6…圧縮機、7…送風装置、8…室内外流量調整弁、9…室内外開閉弁、10…記憶素子

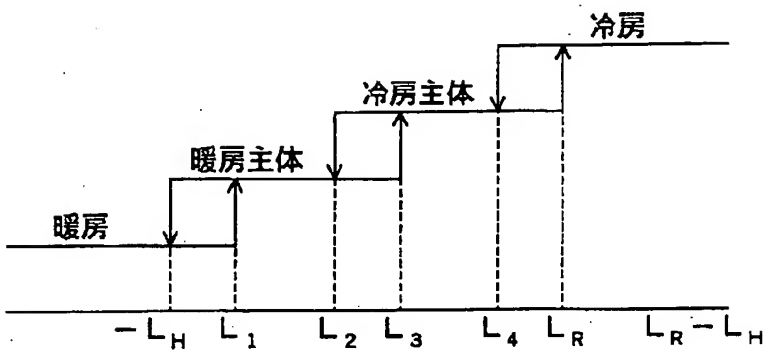
[Drawing 3]

冷房主体，暖房主体領域と境界領域の一実施例（図 3）



[Drawing 2]

空気調和機の運転モード切換条件（図 2）

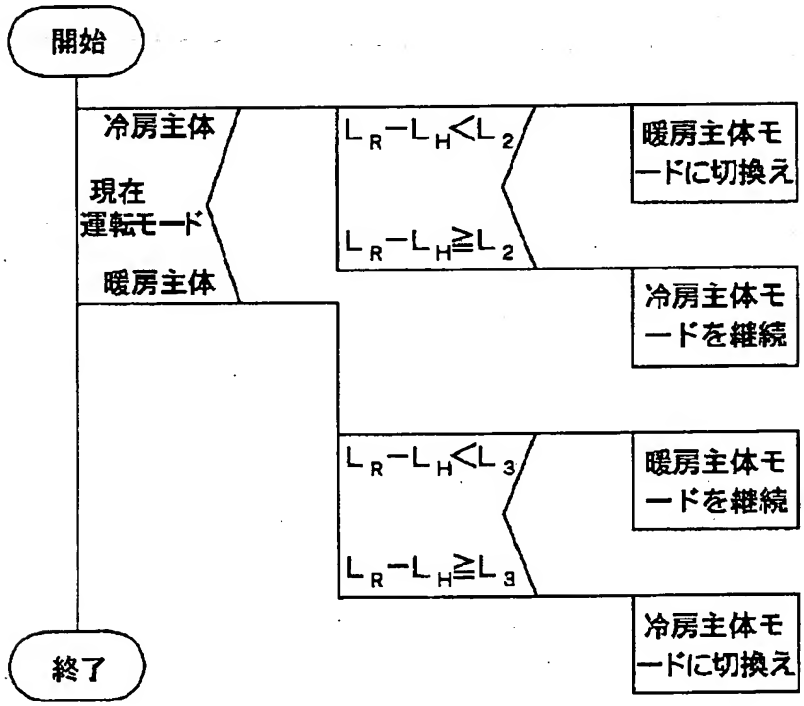


L_R…冷房負荷

L_H…暖房負荷

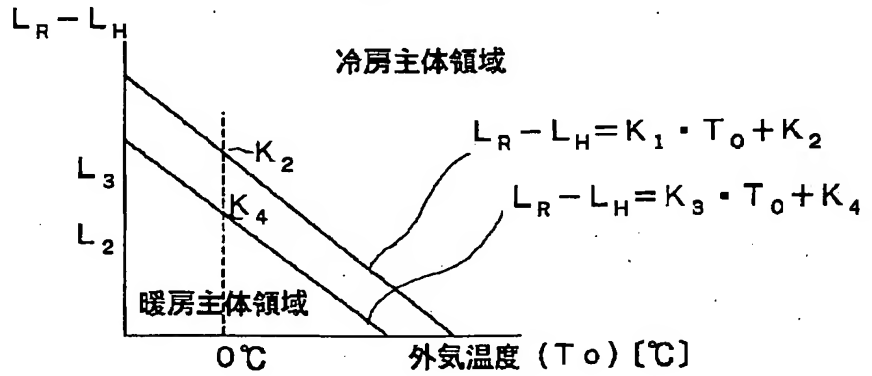
[Drawing 4]

図３の制御フロー（図 4）



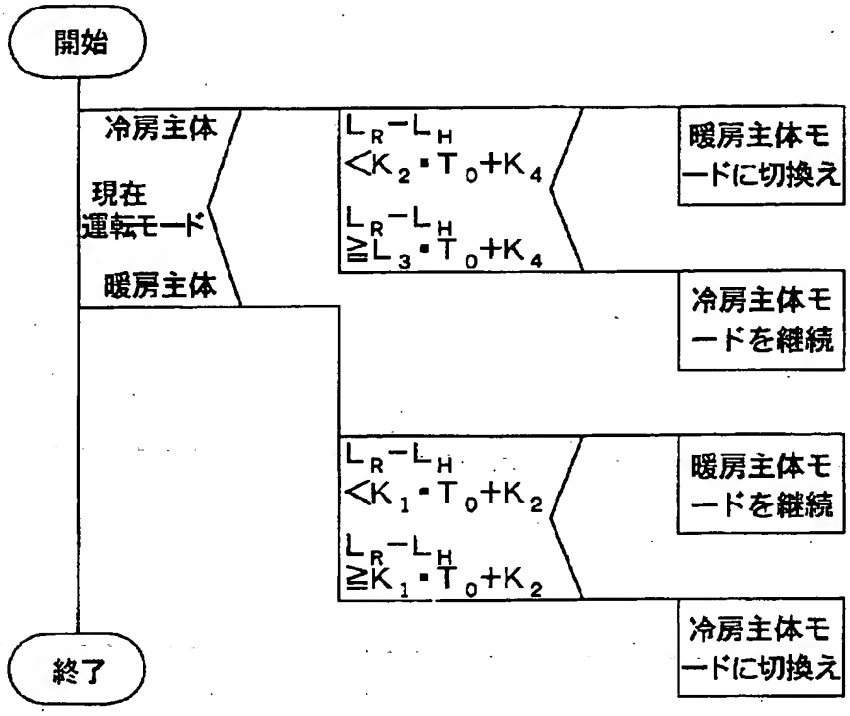
[Drawing 5]

冷房主体，暖房主体領域と境界領域の他の一実施例（図 5）



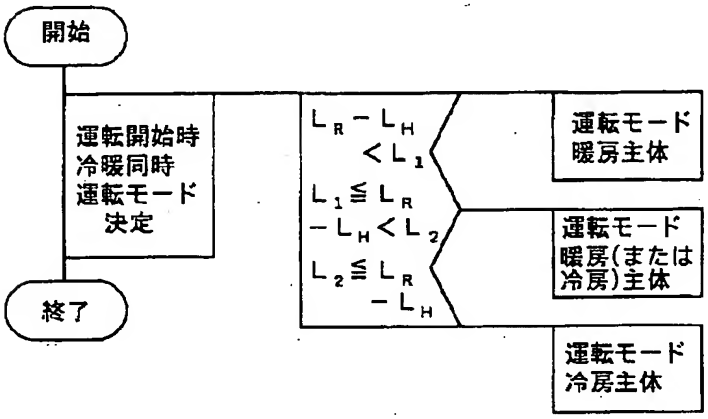
[Drawing 6]

図５の制御フロー（図６）



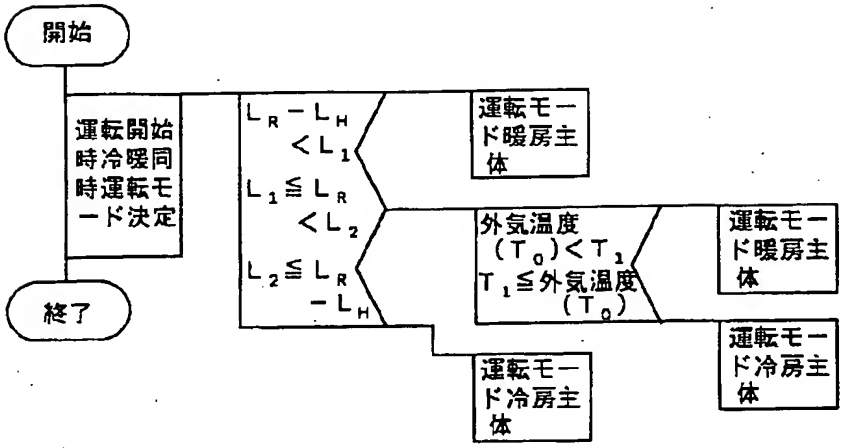
[Drawing 7]

運転開始時における一実施例（図 ７）



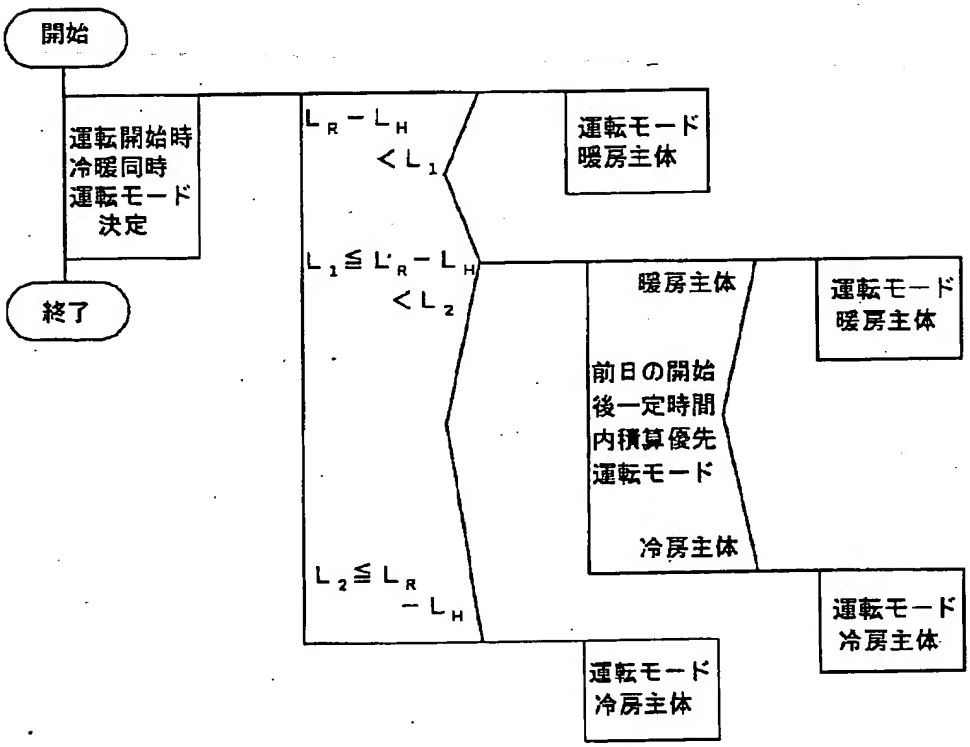
[Drawing 8]

運転開始時における他の一実施例（図８）



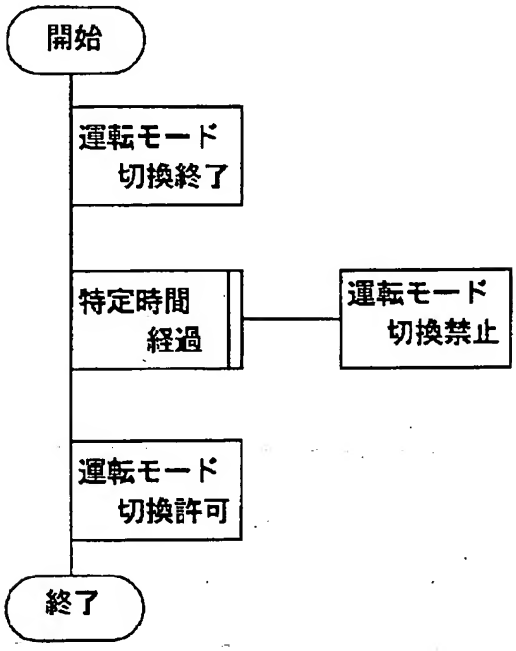
[Drawing 9]

運転開始時における別の一実施例（図９）



[Drawing 10]

運転モード切換における切換禁止制御の一実施例（図１０）



[Translation done.]